

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-13 (Cancelled).

14. (New): A method for modifying a wild strain of an enteroinvasive *Shigella* to produce a modified strain of *Shigella* that can not spread substantially within infected cells of a host and can not spread substantially from infected to uninfected cells of the host, for use in making a vaccine against the wild strain of *Shigella*, the method comprising inactivating an *icsA* gene of the wild strain of *Shigella*, other than only by inactivation by means of a transposon inserted into the gene, to thereby provide a modified strain of *Shigella* that can not spread substantially within infected cells of the host and can not spread substantially from infected to uninfected cells of the host.

15. (New): The method of claim 14, wherein the modified strain of *Shigella* also can not substantially invade cells of the host, the method further comprising inactivating an aerobactin or enterochelin gene of the wild strain of *Shigella*, other than only by inactivation by means of a transposon inserted into the gene, to thereby provide a modified strain of *Shigella* that can not spread substantially within infected cells of the host, can not spread substantially from infected to uninfected cells of the host, and can not substantially invade cells of the host.

16. (New): The method of claim 15, wherein the modified strain of *Shigella* also can not produce toxins that kill a substantial number of the host's cells, the method further comprising inactivating a *Shiga*-toxin gene of the wild strain of *Shigella*, other than only by inactivation by means of a transposon inserted into the gene, to thereby provide a modified strain of *Shigella* that can not spread substantially within infected cells of the host, can not spread substantially from infected to uninfected cells of the host, can not substantially invade cells of the host, and can not produce toxins that kill a substantial number of the host's cells.

17. (New): The method of any of claims 14-16, wherein said *Shigella* is *S. flexneri*.

18. (New): The method of any of claims 14-16, wherein said *Shigella* is *S. dysenteriae* 1.

19. (New): The method of claim 18, wherein one or more of the ent F, Fep E, Fep C, and Fep D subunit genes of the enterochelin operon of *S. dysenteriae* 1 are modified.

20. (New): The method of claim 16, wherein the *Shiga*-toxin gene is the *Shiga*-toxin A gene.

21. (New): The method of any of claims 14-16, wherein one or more of said inactivated genes are inactivated genes from which at least one nucleotide sequence has been deleted.

22. (New): The method of any of claims 14-16, wherein one or more of said inactivated genes are inactivated genes into which at least one nucleotide sequence has been inserted.

23. (New): The method of claim 22, wherein a marker gene is inserted into one or more of said inactivated genes.

24. (New): The method of claim 16, further comprising isolating said modified strain of *Shigella* from said wild strain of *Shigella*.

25. (New): A modified *Shigella* for use in making a vaccine against a wild strain of *Shigella*, the modified *Shigella* comprising:

(a) an inactivated icsA gene, inactivated other than only by means of a transposon inserted into the gene; and

(b) an inactivated aerobactin or enterochelin gene, inactivated other than only by means of a transposon inserted into the gene;

wherein the modified *Shigella* can not spread substantially within infected cells of the host, can not spread substantially from infected to uninfected cells of the host, and can not substantially invade cells of the host.

26 (New): The *Shigella* of claim 25, further comprising an inactivated *Shiga*-toxin gene, inactivated other than only by means of a transposon inserted into the gene; wherein the modified *Shigella* can not spread substantially within infected cells of the host, can not spread substantially from infected to uninfected cells of the host, can not substantially invade cells of the host, and can not produce toxins that kill a substantial number of the host's cells.

27. (New): The *Shigella* of claim 26, wherein the *Shiga*-toxin gene is *Shiga*-toxin A.

28. (New): The *Shigella* of claim 25 or 26, wherein said *Shigella* is *S. dysenteriae* 1 or *S. flexneri*.

29. (New): The *Shigella* of claim 25 or 26, comprising inactivated ent F, Fep E, Fep C, or Fep D subunit genes of the enterochelin operon.

30. (New): The *Shigella* of claim 25 or 26, wherein one or more of said inactivated genes are inactivated genes from which at least one nucleotide sequence has been deleted.

31. (New): The *Shigella* of claim 25 or 26 wherein one or more of said inactivated genes are inactivated genes into which at least one nucleotide sequence has been inserted.

32. (New): The *Shigella* of claim 31 wherein a marker gene is inserted into one or more of said inactivated genes.

33. (New): A vaccine comprising the *Shigella* of claim 25 or 26 and a pharmaceutically acceptable vehicle.

34. (New): The method of any of claims 14-16, wherein a marker gene is inserted into each inactivated gene.

35. (New): The *Shigella* of claim 25 or 26, wherein a marker gene is inserted into each inactivated gene.

36 (New): A vaccine comprising the *Shigella* of claim 35 and a pharmaceutically acceptable vehicle.

37. (New): The method of claim 14, wherein said inactivation of said *icsA* gene comprises allelic exchange with a mutagenized *icsA* gene that has been mutagenized *in vitro*.

38. (New): The method of claim 15, wherein said inactivation of said *icsA* gene comprises allelic exchange with a mutagenized *icsA* gene that has been mutagenized *in vitro*, and wherein said inactivation of said aerobactin or enterochelin gene comprises allelic exchange with a mutagenized aerobactin or enterochelin gene that has been mutagenized *in vitro*.

39. (New): The method of claim 16, wherein said inactivation of said *icsA* gene comprises allelic exchange with a mutagenized *icsA* gene that has been mutagenized *in vitro*, wherein said inactivation of said aerobactin or enterochelin gene comprises allelic exchange with a mutagenized aerobactin or enterochelin gene that has been mutagenized *in vitro*, and wherein said inactivation of said *Shiga*-toxin gene comprises allelic exchange with a mutagenized *Shiga*-toxin gene that has been mutagenized *in vitro*.

40. (New): The method of any of claims 37-39, wherein a marker gene is inserted into one or more of said mutagenized genes.

41. (New): A modified *Shigella* for use in making a vaccine against a wild strain of *Shigella*, the modified *Shigella* comprising:

(a) an inactivated *icsA* gene, inactivated by allelic exchange with a mutagenized *icsA* gene that has been mutagenized *in vitro*, wherein said mutagenesis is other than only by means of a transposon inserted into the gene; and

(b) an inactivated aerobactin or enterochelin gene, inactivated by allelic exchange with a mutagenized aerobactin or enterochelin gene that has been mutagenized *in vitro*, wherein said mutagenesis is other than only by means of a transposon inserted into the gene;

wherein the modified *Shigella* can not spread substantially within infected cells of the host, can not spread substantially from infected to uninfected cells of the host, and can not substantially invade cells of the host.

42. (New): The *Shigella* of claim 41, further comprising an inactivated *Shiga*-toxin gene, inactivated by allelic exchange with a mutagenized *Shiga*-toxin gene that has been mutagenized *in vitro*, wherein said mutagenesis is other than only by means of a transposon inserted into the gene;

wherein the modified *Shigella* can not spread substantially within infected cells of the host, can not spread substantially from infected to uninfected cells of the host, can not substantially invade cells of the host, and can not produce toxins that kill a substantial number of the host's cells.

43. (New): The *Shigella* of claim 41 or 42, wherein a marker gene is inserted into one or more of said mutagenized genes.

44. (New): A vaccine comprising the *Shigella* of claim 41 or 42 and a pharmaceutically acceptable vehicle.

45. (New): A modified *Shigella* for use in making a vaccine against a wild strain of *Shigella*, the modified *Shigella* comprising an inactivated *icsA* gene, inactivated other than only by means of a transposon inserted into the gene;

wherein the modified *Shigella* can not spread substantially within infected cells of the host and can not spread substantially from infected to uninfected cells of the host.

46. (New): The *Shigella* of claim 45, wherein at least one nucleotide sequence has been deleted from said inactivated *icsA* gene.

47. (New): The *Shigella* of claim 45, wherein at least one nucleotide sequence has been inserted into said inactivated *icsA* gene.

48. (New): The *Shigella* of claim 47, wherein a marker gene is inserted into said inactivated *icsA* gene.

49. (New): A vaccine comprising the *Shigella* of claim 45 and a pharmaceutically acceptable vehicle.

50. (New): A modified *Shigella* for use in making a vaccine against a wild strain of *Shigella*, the modified *Shigella* comprising an inactivated *icsA* gene, inactivated by allelic exchange with a mutagenized *icsA* gene that has been mutagenized *in vitro*, wherein said mutagenesis is other than only by means of a transposon inserted into the gene;

wherein the modified *Shigella* can not spread substantially within infected cells of the host and can not spread substantially from infected to uninfected cells of the host.

51. (New): The *Shigella* of claim 50, wherein a marker gene is inserted into said mutagenized *icsA* gene.

52. (New): A vaccine comprising the *Shigella* of claim 50 and a pharmaceutically acceptable vehicle.